Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

**Chemical Bonding Problem Set #3**

Naming Covalent Compounds

1. Write the names of the following covalent compounds.

1. CO2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. N7Cl8 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. NBr3\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. H2O2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Write the chemical formulas of the following covalent compounds.

1. Tetraphosphorus heptafluoride \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Pentasulfur nonahydride \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Tricarbon octachloride \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Naming Ionic Compounds

1. Write the names of the following ionic compounds.

1. MgBr2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. FrBr \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Li2O \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Write the chemical formulas of the following ionic compounds.

1. Sodium nitride \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Potassium phosphide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Barium sulfide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Calcium bromide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Potassium chloride \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Naming Transition Metal Compounds**

Fill in the tables below. These problems are very similar to Tuesday’s homework. Show your work!

|  |  |
| --- | --- |
| **Name (ROMAN NUMERAL = CHARGE)** | **Chemical Formula** |
| Iron (III) chloride |  |
| Chromium (III) chloride |  |
| Manganese (III) sulfide |  |
| Tin (IV) oxide |  |
| Titanium (I) nitride |  |
| Rhenium (III) phosphide |  |
| Platinum (IV) oxide |  |

**Polyatomic Ions**

*(Including some with transition metals!)*

1. Highlight all of the **polyatomic ions** in one color and write the color here: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Highlight all of the **transition metals** in another color and write the color here: \_\_\_\_\_\_\_\_\_\_\_\_

3. Complete the table below.

|  |  |
| --- | --- |
| ***Chemical Formula*** | ***Name*** |
| Ca3(PO4)2 |  |
| BaCO3 |  |
| Al(OH)3 |  |
| CuPO4 |  |
| AlPO4 |  |
| NH4OH |  |
| Ca(MnO4)2 |  |
|  | Ammonium sulfate |
|  | Barium chlorate |
|  | Barium hydroxide |
|  | Calcium carbonate |
|  | Ammonium carbonate |
|  | Strontium hydroxide |
|  | Potassium permanganate |
|  | Lead (IV) chlorate |
|  | Cobalt (III) nitrate |
|  | Lead (II) acetate |
|  | Copper (II) perchlorate |